

# 2012-2013 Weekly Field Reports

## Copacabana, King George Island

Volume 3  
October 29, 2012

### Science Report:

1. Penguins: Adélie penguins are nearing the peak of egg-laying, so during our weekly trip to Arctowski (the Polish Station) on Saturday (11/3), we went to the nearby Point Thomas Adélie penguin colony to collect adult weights and egg 1 measurements. These measurements are used as an indicator of adult condition at the start of each breeding season. We selected 50 nests with both adults present and only one egg, weighed both adults, and measured and weighed the egg. Initial results show that the mean adult weights of both males and females are about 100 grams below their respective 20-year averages, and well-below last year's means, which were the highest ever recorded here. However, the mean egg volume is similar to the 20-year mean, which may indicate average food availability for the females in early spring, prior to coming ashore to breed. The lower than normal adult weights may simply be a reflection of the harsher than usual conditions here at the beginning of this current breeding season. Given the extensive pack ice in the region where Adélie penguins spend the winter, it may mean that they had a shorter than usual migration from their pack-ice wintering areas to their breeding colonies, arriving earlier than in average years. However, since their arrival, the conditions in the colony have been averse to breeding, with snow covering nest sites and below freezing temperatures that typically delay the timing of egg laying.

Although gentoo penguins started laying eggs before the Adélie penguins this year, they are much farther behind, with much less than 50% of the nests with eggs. Again, as with the Adélie nest sites, the colony is still buried under snow and gentoo penguins are capable of delaying egg-laying until conditions are favorable -- either the snow melts sufficiently to expose bare ground and the necessary pebbles for nest-building, or the birds move to areas that are snow free. Many of the birds have chosen the latter, resulting in more of them nesting up in the higher, more exposed colonies, and new areas being colonized even further up, some in giant petrel colonies, where the penguins are taking over giant petrel nests. Some of the nests in the reproductive study sites that are in more exposed colonies now have eggs and one member of each pair has been banded. Once all of the penguin nests (Adélie and gentoo) in a study site have two eggs, they will go on the "full nest check" schedule, whereby they are only checked every four days, to minimize disturbance.

The first chinstrap penguin was seen at Copa on Monday (10/29) and two or three have been seen regularly around the colony since. We typically have at least three pairs breeding among the Adélie and gentoo penguins on Copa Beach every year, and three of the early male arrivals are already building and defending nests there. No females have shown up yet, but their mean clutch initiation date is typically around the end of November, so it is still early.



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2. Skuas: More skuas are arriving daily and several of the pairs that control penguin territories are back together again. Mostly only brown skuas have been seen, so far, since the few south polar skuas we have around Copa usually don't arrive until later. During our visit to Arctowski last weekend, we did a complete survey of all the skua territories in the Point Thomas area and saw many brown skuas, one hybrid skua, and one south polar skua occupying territories.
3. Seals: Many leopard seals have been seen this week on ice floes grounded on the beaches near Copa, presumably from ice breaking out of the inlets in the bay. Friday (11/2), we saw six individuals on the ice near Copa. The complete seal census on Saturday (11/3), from Sphinx to Point Thomas, only yielded two elephant seals and two Weddell seals.

### Camp Activities:

Still too cold to put up the gutters for our water collection system, as all the water in the barrels is still frozen. We are hoping for some consecutive, warm days to get things flowing. We are still clearing snow off of decks and outside storage boxes, since it's still snowing regularly.

### Weekly Weather:

Below freezing temperatures and intermittent snow for the beginning of the week. Warmer temperatures (near freezing) and heavy, wet snow Thursday (11/1). Friday (11/2) and Saturday (11/3) warmed up to above freezing, with very little wind or precipitation, resulting in some thawing and melt-off around the penguin colonies. Cold and snowing again from the east on Sunday (11/3), so all was frozen once more.

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